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United States Patent [19]**Weadon et al.**[11] **Patent Number:** **5,507,013**[45] **Date of Patent:** **Apr. 9, 1996**[54] **PREFERENTIAL DEFLECTION HINGED HOUSING CONFIGURATION**[75] Inventors: **Mark W. Weadon**, Eden; **Steven J. Harms**, Raleigh, both of N.C.[73] Assignee: **Ericsson GE Mobile Communications, Inc.**, Research Triangle Park, N.C.[21] Appl. No.: **247,286**[22] Filed: **May 23, 1994**[51] Int. Cl.⁶ **H04B 1/38**[52] U.S. Cl. **455/90; 455/347; 455/351; 379/428; 379/430; 379/433; 16/257; 16/334; 49/383**[58] Field of Search **455/89, 90, 344, 455/346, 347, 348, 349, 351; 379/428, 433, 434, 430; 16/257, 334; 49/394, 383; 248/292.12; 206/305, 320**[56] **References Cited****U.S. PATENT DOCUMENTS**

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A hinge configuration particularly suitable for use with a radiotelephone includes: an arcuate hinge body having a predetermined body length, a predetermined body thickness and a predetermined radius of curvature; and a pair of arms, a respective one of which is attached to and extends away from a respective end of the arcuate hinge body, the pair of arms each having predetermined arm lengths and predetermined arm thicknesses. The arms are pivotally mounted on a housing such that the arms twist upon pivotal movement of the arcuate hinge body relative to the housing. At least one of the predetermined body length, predetermined body thickness, predetermined radius of curvature, predetermined arm lengths and predetermined arm thicknesses should be selected to induce preferential deflection in the arcuate hinge body relative to the pair of arms upon twisting thereof during pivotal movement of the hinge body so that the arms resist fracture during such repeated pivotal movement.

35 Claims, 4 Drawing Sheets